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# AGRICULTURAL LIBRARIES INFORMATION NOTES

## EXPERIENCES WITH A GENERALIZED DATA BASE MANAGEMENT INFORMATION SYSTEM: A "NEW GENERATION" OF THE EXTENSION MANAGEMENT INFORMATION SYSTEMS

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Since early 1980 our office in Information Systems Division has been experimenting with various computer software products for information management and delivery products which are not operated on USDA computer hardware but rather are used on a contract basis with a commercial company. We are now using a generalized data base management system called NOMAD to store and retrieve the State plan-of-work and end-of-the year statistical data.

NOMAD is a generalized data base management system available on a time-sharing basis through a national telecommunications network with local dial up capabilities for many U.S. locations and also available on a National CSS 3200 series computer. Although the comments that follow relate to our experiences with NOMAD, many of these same advantages would also apply to other generalized data base systems which do not require special computer background to use.

*A generalized data base system is very flexible.* The designer of the data base is in total control of how many items of information are stored, whether they are numerical or

alphanumeric, the length of each field, whether the data are to stored automatically by some pre-established criteria and stored that way, how many "quantifiable" versus "qualifiable" items occur, etc. One data base can contain several textual fields, and another might have only three numerical fields.

*Training to design and create bases on NOMAD is minimal and does not require programming background.* The NOMAD commands and implementation features can be used with equal ease by programmers and non-programmers. Our system for the Extension statistical data was created by a person with no programming coursework. Only two days of training were required to learn the basics of data base creation on NOMAD.

*A data base can be created rapidly on NOMAD.* Once the data elements are agreed upon, the data base can be created in the time it takes to type the names of the data fields, their format length, input restrictions (if any), and column headings used in report writing. Online input, card input, or tape input can begin immediately. Such speed in creating a  
(MIS Continued on page 2)

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file structure and starting online input--30 minutes as opposed to several weeks or months of original programming-- illustrates one of the strongest advantages of using NOMAD.

*As data needs change, data elements can be easily added, modified, or deleted.* Changing the limits for a data item, for example, splitting the agricultural-natural resources program area into two program areas, can be done in about 1 minute, with less than a half dozen commands. Adding new data items is equally as fast.

*The Data entry modes are flexible and easy to learn.* Since the statistical data sent to us by State offices are not in machine readable format already, but are listed on charts, and since we are dealing with a relatively small file (2,700 records for one year of the plan-of-work), we have chosen to do online entry through a standard 30-cps (character per second) ASCII terminal. Clerical staff without special training can do data entry through use of a prompting feature on NOMAD which asks for each element of the record, one by one, and automatically refuses entries which do not meet the pre-established limitations. Although we use online entry, we also have the option to load files from keypunched cards, from magnetic tapes, or other methods.

*NOMAD is dependable and available.* Since mid-May at least one ISD staff member has used NOMAD at least 70 percent of every working day.

*Changes in the hardware and software do not affect our data base or our retrievals.* Changes and upgrading of the NOMAD hardware and software are made frequently. However, such changes are transparent to the user. We do not have to worry about our data base, or some particular part of it, such as the

input prompting feature, not working after upgrades have been made.

*The retrieval package is flexible.* We are not restricted to a pre-established number of canned retrievals, but we can retrieve any combination of data elements stored. Training in how to create retrievals involves a maximum of two working days and does not require programming or computer background. Because of the flexibility of the retrieval package, new reports to meet special needs can be created instantly.

*Because the data base is online, managers and leaders can retrieve pre-established reports as needed.* Although reports can be quickly written and processed online, the instructions for common information requests can be written and stored on an affiliated editor file. This is the procedure we are using for distributing end-of-the-year and plan-of-work statistical data to the National Extension offices. On their own terminals, program leaders dial up the system, enter an identification number and password, and then type in the report number they wish to retrieve. Within seconds the report they need is printed out, with the most current data, and they do not have to file and read through 20 reports when they only need to see one. (See Exhibit 1).

*NOMAD provides computational capability.* Our data base summarizes the staff years and the racial and male/female contacts by State, by program area, other data elements. Without changing the stored values, we can also produce reports which show the effects on staff years if one component is increased by 15 percent, another decreased by 5 percent and so forth.

*Our data base is maintained with a minimum of the manager's time.* By  
*(MIS Continued on page 3)*

## EXHIBIT 1

COMPARISONS OF PLANNED PROFESSIONAL STAFF YEARS  
BY COMPONENTS FOR ALL FOUR PROGRAMS  
FOR FY 1980, FY 1981, AND FY 1986

COMPONENT	TOTAL FTE PLANNED FY 80	TOTAL FTE PLANNED FY 81	TOTAL FTE PLANNED FY 86
CROP PRODUCTION	3,548.1	3,362.1	3,388.4
LIVESTOCK PRODUCTION	2,059.4	1,994.8	1,981.8
BUS MGT & ECONOMICS	740.2	703.1	975.5
AGR MKG & FARM SUPLS	544.4	506.5	562.4
ECOL, NAT RES. & ENVIRON.	820.8	803.0	899.7
MECH SCI, TECH & ENGINEER	244.7	227.1	259.0
SAFETY	251.9	242.9	245.0
EFNEP FED. FUNDED	713.5	666.3	638.8
EFNEP NON-FED. FUNDED	114.7	95.0	86.3
FOOD & NUTRITION	712.6	889.0	917.7
PERS. & FHLT. RES. MGT.	624.5	642.8	723.9
FAMILY LIFE, ETC.	1,142.4	1,083.1	1,024.5
TEXTILES & CLOTHING	496.7	451.5	450.7
HUMAN HEALTH	238.5	201.4	264.1
HOUSING & HOME ENV.	764.5	732.8	773.2
LEADERSHIP DEVELOPMENT	1,434.0	1,414.4	1,481.2
ORG. DEVEL. & MAINTCE.	1,563.0	1,471.8	1,379.0
COMP. CONN. PLANNING	219.0	187.4	223.3
COMM. SERV. & FACLT.	285.0	260.4	277.8
EC., MPUR & CAREER DEV.	242.4	195.7	243.1
GOVT. OPER. & FINANCE	132.7	112.2	137.1
LEISURE & CULT. EDUC.	342.4	353.6	355.7
*****	*****	*****	*****
	17,843.4	16,798.9	17,288.6


COMPARISONS OF PLANNED PROFESSIONAL STAFF YEARS  
BY COMPONENTS FOR ALL FOUR PROGRAMS  
FOR FY 1980, FY 1981, AND FY 1986  
EXPRESSED AS PERCENTAGES

COMPONENT	PERCENT FTE PLANNED FY 80	PERCENT FTE PLANNED FY 81	PERCENT FTE PLANNED FY 86
CROP PRODUCTION	20.1	20.0	19.6
LIVESTOCK PRODUCTION	11.7	11.9	11.5
BUS MGT & ECONOMICS	5.3	5.4	5.6
AGR MKG & FARM SUPLS	3.1	3.0	3.3
ECOL, NAT RES. & ENVIRON.	4.7	4.8	5.2
MECH SCI, TECH & ENGINEER	1.4	1.4	1.5
SAFETY	1.4	1.4	1.4
EFNEP FED. FUNDED	4.0	4.0	3.7
EFNEP NON-FED. FUNDED	0.7	0.6	0.5
FOOD & NUTRITION	5.2	5.3	5.3
PERS. & FHLT. RES. MGT.	3.5	3.8	4.2
FAMILY LIFE, ETC.	6.5	6.4	5.9
TEXTILES & CLOTHING	2.8	2.7	2.6
HUMAN HEALTH	1.4	1.2	1.5
HOUSING & HOME ENV.	4.3	4.4	4.5
LEADERSHIP DEVELOPMENT	8.1	8.4	8.6
ORG. DEVEL. & MAINTCE.	8.9	8.8	8.0
COMP. CONN. PLANNING	1.2	1.1	1.3
COMM. SERV. & FACLT.	1.6	1.6	1.6
EC., MPUR & CAREER DEV.	1.4	1.2	1.4
GOVT. OPER. & FINANCE	0.8	0.7	0.8
LEISURE & CULT. EDUC.	1.9	2.1	2.1
*****	*****	*****	*****
	100.0	100.0	100.0

FY81 &amp; 86 data, states missing: AL (partisl) OK, CO, HI, NV

choosing a special package to run on our own hardware, we are eliminating the need for our manager to spend time rewriting programs and monitoring computer center changes which could affect our data base. Through NOMAD we have created a data base which can be maintained and operated by staff without programming background. New data entry, file modification, and retrievals can be made with little or none of the manager's time, thus freeing the manager to tackle other information management problems.

Examples of the charges associated with NOMAD are: connect charges and computer charges for entering and loading 2,700 plan-of-work records are about \$1,400 (one-third of this is connect charges, which would be eliminated if we loaded from tape).

Our experience to date with the generalized database management information system has proven to be a flexible cost-effective process that is free of the many technician dependent limitation of former approaches to database management. 



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NEW PUBLICATIONS  
OF NOTE

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*Acid Rain.* Washington, Environmental Protection Agency, Office of Research and Development, 1980. unnumb. p. \$3.25. GPO-055-00-00198. Order from Superintendent of Documents, Washington, D.C. 20402.

*Agri-Energy Roundtable 1980. Conference Proceedings. "U.S. Agribusiness and the Energy-Rich Nations."* Washington, D.C. Agri-Energy Roundtable, 1980. \$25.00 + \$5.00 handling/postage. Order from publisher, 2550 M Street N.W., Washington, D.C. 20037. Telephone (202) 244-3745.

*Appropriations. State Tax Funds for Operating Expenses of Higher Education, 1980-81.* M. M. Chambers. (Washington, D.C.) National Association of State Universities and Land-Grant Colleges (1980). 24 p. Non-members, \$3.50. Request from publisher, 1 Dupont Circle, Washington, D.C. 20036.

*The Beltsville Agricultural Research Center.* (Washington, D.C.) U.S. Dept. of Agriculture, (1980). 52 p. Free. Request from U.S. Dept. of Agriculture, Office of Governmental and Public Affairs, Rm. 507A, 14th & Independence Ave. S.W. Washington, D.C. 20250.

*The Eisenhower Consortium for Western Environmental Forestry Research: Research Highlights, 1972-1980.* Gordon D. Lewis, comp., Fort Collins, Colo., Rocky Mountain Forest and Range Experiment Station, 1980. 31 p. (Eisenhower Consortium Bulletin 8). Free. Apply to RMF & RES, Fort Collins, CO.

*EPA Hazardous Waste Regulations Under the Resource Conservation and Recovery Act (RCRA): Identification and Listing of Hazardous Wastes; Standards for Owners/Operators of Hazardous Waste*

*Treatment Storage, and Disposal Facilities; and the Underground Injection Control Program.* Greg H. Lazarus. Denver, National Conference of State Legislatures, 1980. 50 p. Free. Request from Publisher, Office of Science and Natural Resources, 1125 Seventeenth St., Suite 1500, Denver CO 80202. Telephone (303) 623-6600.

*Small Farm Programs and Activities... State Reports, 1979.* Washington, D.C., Science and Education Administration, 1980. 36 p. Free. Request from Coordinator, Small Farms Programs, SEA-Extension, Washington, D.C. 20250.

*Status Report on the Libraries of Historically Black Public Colleges and Universities. A Special Study. September 1979.* Compiled with the assistance of the Council on Library Resources, Inc., by the Office of Communications Services and the Office for the Advancement of Public Negro Colleges of the National Association of State Universities and Land-Grant Colleges in cooperation with the American Association of State Colleges and Universities. Washington, D.C., 1979. 18 p. Free. Request from National Association of State Universities and Land-Grant Colleges, Publications Dept., 1 Dupont Circle, Washington, D.C. 20036.

*U.S. Farm Numbers, Sizes and Related Structural Dimensions: Projections to Year 2,000.* William Lin, George Coffman, and J. B. Penn. (Washington, D.C., National Economics Div., Economics, Statistics, and Cooperatives Service, U.S. Dept. of Agriculture, 1980). 79 p. (Technical Bulletin 1625). \$8.00 paper; \$3.50 microfiche. Available from National Technical Information Service, 5285 Port Royal Rd., Springfield, VA 22161.

(NEW PUBL., Continued on page 7)



The titles listed below are owned by the Library; those lacking call numbers have not yet been cataloged.  
The foreign, as well as domestic titles are available from the Library through loan or photocopy.

*Eroziia Pochvy i Bor'ba s Nei: Ukazatel' Literatury za 1978 g. ...* (Soil Erosion and Its Prevention: Literature Guide for 1978, 513 Domestic Titles, 127 Foreign Titles). Compiled by N. P. Ivanova. Moskva, TsNSKhB VASKhNIL. 1979. 133 p. 640 annotated citations. Price unavailable.

*Immunitet Rastenii k Vrediteliám: Ukazatel' Literatury za 1970-1977 gg. ...* (Immunity of Plants to Pests: Literature Guide for 1970-1977, 547 Domestic Titles, 562 Foreign Titles). Compiled by L. S. Gol'dman, E. A. Burets, and I. V. Shevgenina. Moskva, TsNSKhB VASKhNIL. 1979. 231 p. 1,109 annotated citations. Price unavailable.

*Ispol'zovanie Otkhodov v Kormlenii Sel'skokhoziaistvennykh Zhivotnykh: Ukazatel' Literatury za 1974-1978 gg. ...* (Use of Waste Products in Feeding Farm Animals: Literature Guide for 1974-1978, 668 Domestic Titles, 539 Foreign Titles). Compiled by K. I. A. Tarasova. Moskva, TsNSKhB VASKhNIL. 1979. 247 p. 1,207 annotated citations. Price unavailable.

*Khranenie i Pervichnaia Pererabotka Plodov i Ovoshchei: Ukazatel' Literatury za 1975-1978 gg. ...* (Storage and Preliminary Processing of Fruit and Vegetables: Literature Guide for 1975-1978, 480 Domestic Titles, 747 Foreign Titles). Compiled by T. V. Dorofeeva. Moskva, TsNSKhB VASKhNIL. 1979. 263 p. 1,227 annotated citations. Price unavailable.

*Reclamation and Revegetation of Land Areas Disturbed by Man: An Annotated Bibliography of Agricultural Research, 1972-80.* Compiled by R. F. Follett. (USDA Bibliographies and Literature of Agriculture, No. 8). Washington, D.C., Agricultural Research, Science and

Education Administration. August 1980. Approx. 90 citations. Order from: Publications Division, Office of Governmental and Public Affairs, U.S. Dept. of Agriculture, Washington, D.C. 20250. Free. (NAL call no.: aZ5076.A1U54).

*Selected Bibliography on Southern Range Management, 1973-1978.* Compiled by H. A. Pearson, R. D. Child, E. K. Byington, H. E. Grelen, C. E. Lewis. (USDA Forest Service. General Technical Report SO-31). New Orleans, Southern Forest Experiment Station. 1980. 61 p. 1,049 citations. Order from: Publisher, T-10210 Federal Building, 701 Loyola Avenue, New Orleans, LA 70113. Free. (NAL call no.: aSD11.U57).

The following titles were published as a series of bibliographies prepared by the Technical Library of the Tennessee Valley Authority. Order from: Technical Library, Tennessee Valley Authority, Muscle Shoals, AL 35660. Free. (NAL call no. for series: Z5074.F4N3).

*Agricultural Uses of Fluidized-Bed Combustion Wastes, 1976-1980.* (TVA Bibliography No. 1647). June 1980. 2 p. 14 citations.

*Effect of Nitrogen Fertilizers on Soil pH, 1960-1978.* (TVA Bibliography No. 1652). July 1980. 7 p. 74 citations.

*Fire and Explosion Hazards of Solid Fertilizers, 1961-1975.* (TVA Bibliography No. 1648). June 1980. 2 p. 15 citations.

*Motor Fuels from Vegetable Oils, 1919-1980.* (TVA Bibliography No. 1650). June 1980. 4 p. 44 citations.

*Urea as a Deicing Agent, 1970-1980.* (TVA Bibliography No. 1649). June 1980. 2 p. 15 citations. 

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NAL--BIBL. 80-15. *Salt Tolerance in Plants, 1974-1979*. 275 citations from AGRICOLA. Search by Jayne T. MacLean. July 1980.

NAL--BIBL. 80-16. *Windbreaks and Shelterbreaks, 1968-1979*. 332 citations from AGRICOLA. Search by Charles N. Bebee. July 1980.

NAL--BIBL.--80-17. *Nutrition and Aging, 1974-1979*. 258 citations from AGRICOLA. Search by Jayne T. MacLean. July 1980.

NAL--BIBL.--80-18. *Plant Senescence, 1976-1980*. 289 citations from AGRICOLA. Search by Henry Gilbert. August 1980.

NAL--BIBL.--80-19. *Gasohol, 1979-1980*. 78 citations from AGRICOLA. Search by Sheldon Cheney. August 1980.

NAL--BIBL.--80-20. *Integrated Pest Management, 1969-1980*. 188 citations from AGRICOLA. Search by Charles N. Bebee. August 1980.

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NAL--BIBL.--80-23. *The Spiderwort (Tradescantia), A Radiation Monitoring Plant, 1970-1980*. 22 citations from AGRICOLA. Search by Henry Gilbert. August 1980.

NAL--BIBL.--80-24. *Drought: Resistance, Stress, or Effect, 1978-1980*. 104 citations from AGRICOLA. Search by Phyllis L. Cleveland. September 1980.

NAL--BIBL.--80-25. *Farm Ponds, 1969-1980*. 70 citations from AGRICOLA. Search by Jayne T. MacLean. September 1980.

NAL--BIBL.--80-26. *Wild Birds and Agriculture, 1969-1980*. 155 citations from AGRICOLA. Search by Ann Juneau. September 1980.

NAL--BIBL.--80-27. *Organic Farming and Gardening, 1970-1980*. 248 citations from AGRICOLA. Search by Jayne T. MacLean. September 1980.

NAL--BIBL.--80-28. *Byssinosis: Cotton Dust Lung Disease, 1970-1979*. 75 citations from AGRICOLA. Search by Henry Gilbert. September 1980.

NAL--BIBL.--80-29. *Roadside Marketing, 1970-1980*. 75 citations from AGRICOLA. Search by Henry Gilbert. September 1980.


NAL--BIBL.--80-30. *Jojoba, 1971-1980*. 116 citations from AGRICOLA. Search by Henry Gilbert. September 1980.  
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ALCOHOL FUELS REPRINT SERIES  
INTRODUCED

SOLAR ENERGY INFORMATION SERVICES (SEIS), San Mateo, California, has expanded its information services activity into the field of *alcohol fuels* (ethanol, gasohol, and methanol). SEIS will develop and publish a number of proprietary information products to meet user needs and will distribute information from a variety of domestic and international sources. SEIS will also provide specialized information services for client organizations on a fee basis.

Several agencies of the U.S. government have prepared overview documents dealing with the potential of alcohol fuels. SEIS has compiled and published seven of the most important documents as the initial volume of its ALCOHOL FUELS REPRINT SERIES. Volume I, U.S. GOVERNMENT OVERVIEWS, (350 p. Indexed. \$49.95 hardcover; \$34.95 softcover; domestic handling charge, \$3.00; seamail, \$7.00; airmail, \$17.00).


1. Gasohol: The Alcohol Fuels Issue Brief (CRS)
2. Gasohol: A Technical Memorandum (OTA)
3. Will Gasohol Help Power America? (U.S. Dept. of Agriculture Issue Briefing Paper #21) (USDA)
4. Report of the Alcohol Fuels Policy Review (DOE)
5. Alcohol Fuels Program Plan (DOE)
6. Position Paper on Alcohol Fuels (DOE)
7. Gasohol From Grain: The Economic Issues (USDA) 

(QUICK BIBLIO., Continued from page 6)  
NAL--BIBL.--80-31. *Herb Gardening, 1970-July 1980*. 123 citations from AGRICOLA. Search by Jayne T. MacLean. September 1980.

NAL--BIBL.--80-32. *Double Cropping and Interplanting, 1976-July 1980*. 324 citations from AGRICOLA. Search by Jayne T. MacLean. October 1980.

NAL--BIBL.--80-33. *Sewage and Municipal Waste Composting, 1969-80*. 81 citations from AGRICOLA. Search by Jayne T. MacLean. October 1980.


NAL--BIBL.--80-34. *Composts and Composting of Organic Wastes, 1977-80*. 224 citations from AGRICOLA. Search by Jayne T. MacLean. October 1980.

NAL--BIBL.--80-35. *Vegetation Management, 1974-80*. 132 citations from AGRICOLA. Search by Phyllis Cleveland. October 1980. 



(NEW PUBL., Continued from page 4)

*USDA Small-Farm Policy: Emphasis on the Family Background. Issue Briefing Paper*. Washington, D.C., Office of Governmental and Public Affairs, 1980. 7 p. Free. Request from Coordinator, Small Farms Programs, SEA-Extension, Washington, D.C. 20250.

*Water Resources (Aprovechamientos hidraulicos): Proceedings of the 3rd World Congress on Water Resources, Association, 1979*. 8 v. \$100. Available through InterDok. 





March 1981: *Energy Technology Conference & Exhibition*. Washington Sheraton Hotel, Washington, D.C. Contact: Martin Heavner, 4733 Bethesda Ave., Washington, D.C. 20014.

March 2-4: *"Strategies for Change" Annual NFAIS Conference*. Arlington, Va., Crystal City Marriott Hotel. Contact: NFAIS, 112 South 16th St., Philadelphia, PA 19102.

May 4-8: *American Association of Botanical Gardens and Arboreta, Inc. Annual Meeting*. San Francisco, Calif. Contact: Hadley Osborn, Director, Filoli Center, Canada Rd., Woodside, CA 94062. Telephone: (415) 364-8300.

May 5-8: *Horticultural Libraries. 13th Annual Meeting*. San Francisco, Calif. Contact: Jane Gates, Librn., Strybing Arboretum Society, 9th Avenue at Lincoln Way, San Francisco, CA 94122. Telephone: (415) 661-1316.

May 28-29: *Seminar on the Economics of Secondary Information*. Atlanta, Ga. Atlanta Hilton. Contact: NFAIS, 112 South 16th St., Philadelphia, PA 19102.

May 31-June 4: *American Society of Biological Chemists*. St. Louis, Mo. Contact: S.K. Herlitz Inc., 850 Third Ave., New York, NY 10022.


June 15-24: *XIV International Grassland Congress*. University of Kentucky, Lexington, Ky. Contact: John E. Baylor, Agricultural Science Center, University of Kentucky, Lexington, KY 40546.

June 18-22: *American Association of Nurserymen*. Cincinnati, Ohio. Contact: Robert F. Lederer, 230 Southern Building, Washington, D.C. 20005.

June 19: *USDA Agency Field Libraries Meeting*. Atlanta, Ga. Contact: Wallace C. Olsen, Chief, Library Operations Div., TIS/SEA/USDA, NAL Bldg., Beltsville, MD 20760. Tel. (301) 344-3834.

July 26-30: *American Society of Animal Science*. North Carolina State University, Raleigh, N.C. Contact: David C. England, Oregon State University, Animal Science Department, Corvallis, OR 97330.

August 2-6: *American Phytopathological Society*. New Orleans, La. Contact: R. J. Tarleton, APS, 3340 Pilot Knob Rd., St. Paul, MN 55121.

August 30-September 4: *World Association of Veterinary Food Hygienists. 8th Symposium*. Dublin, Ireland. Contact: The Secretariat, 8th W.A.V.F.H. Symposium, 44 Northumberland Road, Ballsbridge, Dublin 4, Republic of Ireland. Telephone: 01-688244, telegrams: Congrex, Dublin; Telex: 31098. 



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